

REQUEST FOR PROPOSALS 20-05-2861PB

**SOLID WASTE MANAGEMENT CONSULTING AND
WATER QUALITY MONITORING SERVICES**

PRICING SCENARIO (BASED ON SUBMITTED NON-BINDING FEES)

Item #	Task or Description	Total
Phase 100	Compliance Groundwater Monitoring Program (six wells)	
Phase 101	Voluntary Surface Water Monitoring Program (two locations)	
Phase 102	Corrective Action Seep and Surface Water Monitoring Program (two locations)	
Phase 103	Corrective Action Groundwater Monitoring Program	
Phase 104	Corrective Action Landfill Gas Sampling Program (selected vents and composite sample) & Quarterly Monitoring of Soil Gas Vents	
Phase 105	Corrective Action Leachate Sampling (one location)	
Phase 500	General Consulting (Estimate Annual Budget \$5,000.00)	\$5,000.00
Annual Fee:		

PHASE 100 COMPLIANCE GROUNDWATER MONITORING PROGRAM

Routine compliance monitoring services include semi-annual sampling and analysis activities for the six groundwater monitoring wells (MW-7, MW-12, MW-13, MW-14, MW-15, and MW-16) in the facility's compliance monitoring network. Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, managing the analytical data, collecting the samples, and submitting required notifications and reports to the Department of Environmental Quality (DEQ). The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site;
- Preparing the sample kit and field equipment for each sampling event;
- Gauging the depth to water in the facility's compliance, performance, sentinel, and observation wells to assist with the preparation of the annual groundwater surface contour map required for the facility;
- Micropurging (and sampling) the six compliance monitoring wells using dedicated bladder pumps in accordance with the United States Environmental Protection Agency (EPA) guidance for micropurging. ;
- Submitting the groundwater samples to the contract laboratory under chain-of-custody control for required analyses (Virginia Solid Waste Management Regulations Table 3.1, Column A, or Column A constituents plus the most current list of Column B detections: cyanide, sulfide, mercury, tin, acetophenone, dichlorodifluoromethane, bis(2-ethylhexyl)phthalate, phenol, naphthalene, delta-BHC, 2-methylphenol, and 3- & 4-methylphenol);
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with organic and inorganic data;
- Uploading the vetted laboratory analytical data in an electronic EQulS database with existing historical data;
- Providing recommendations to the County for resampling on an as-needed basis based on our review of the laboratory data with respect to established Groundwater Protection Standards (GPS);
- Preparing and submitting, on behalf of Hanover County, the required Table 3.1, Column B detections and GPS exceedance notifications to the DEQ within the required 14-day timeframe; and
- Preparing the required annual monitoring report for submission to the DEQ. A draft report will be forwarded to you for review and comment and, with your approval, will be forwarded to the DEQ.

Please note that this phase does not include specialty analytical laboratory services that may be needed to evaluate detections of 3- and 4-methylphenol. If needed, these services will be conducted under the General Consulting phase.

PHASE 101 VOLUNTARY SURFACE WATER & TRENCH MONITORING PROGRAM

Routine monitoring services include semi-annual sampling and analysis activities for two surface water monitoring locations (SMP-4 and SMP-7), corrective action trench surface sampling, and down-gradient pilot study trench well T-2 at the facility. Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, managing the analytical data, collecting the samples, and preparing a summary letter report documenting the results and parameter trends to Hanover County. The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site;
- Preparing the sample kit and field equipment for each sampling event;
- Collecting the surface water and groundwater samples from the designated locations;
- Submitting the samples to the contract laboratory under chain-of-custody control for analysis of required constituents:
 - SMP-4 & SMP-7: dissolved metals, total suspended solids, total organic carbon, chloride, 5-day biological oxygen demand, nitrate/nitrite, total Kjeldahl nitrogen, and phosphorous;
 - Trench and T-2: VSWMR Table 3.1, Column A VOCs and cobalt;
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with inorganic data;
- Uploading the vetted laboratory analytical data in an electronic database with existing historical data; and
- Preparing a letter report summarizing the results with trend analyses and recommendations, as appropriate, for submittal to Hanover County.

PHASE 102 CORRECTIVE ACTION SEEP AND SURFACE WATER MONITORING PROGRAM

Monitoring services include semi-annual sampling and analysis activities for one seep sample (S-6) and one surface water sample (S-5) collected from property adjacent to the landfill. Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, collecting the samples, managing the analytical data, and providing recommendations, as appropriate, either verbally or electronically, to Hanover County. The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site and adjacent property, as needed;
- Preparing the sample kit and field equipment for each sampling event;
- Collecting the seep and surface water samples from the designated locations;
- Submitting the samples to the contract laboratory under chain-of-custody control for analysis of required constituents (volatile organic compounds, sulfide, arsenic, and cobalt);
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with organic and inorganic data;
- Uploading the vetted laboratory analytical data in an electronic database with existing historical data; and
- Making verbal recommendations to the County for resampling, as needed based on our review of the data. The results of the analyses will be incorporated in the corresponding System Evaluation Reports and summarized in the Corrective Action Status Evaluation Report, both of which are covered under Phase 103 activities.

PHASE 103 CORRECTIVE ACTION GROUNDWATER MONITORING PROGRAM

Routine monitoring services include semi-annual sampling and analysis activities for the three permit-designated performance and sentinel monitoring wells (MW-18, MW-19, and MW-20) at the facility, and one sentinel surface water monitoring location (SMP-7). Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, collecting the required samples, managing the analytical data, and submitting required notifications and reports to the DEQ. The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site;
- Preparing the sample kit and field equipment for each sampling event;
- Gauging the depth to water in the one performance well (MW-20) and two sentinel locations (MW-18 and MW-19);
- Micropurging (and sampling) the three performance and sentinel wells using dedicated bladder pumps in accordance with EPA guidance for micropurging. ;
- Submitting the groundwater and surface water samples to the contract laboratory under chain-of-custody control for required analyses:
 - MW-20 - Virginia Solid Waste Management Regulations Table 3.1, Column A constituents plus cyanide, sulfide, mercury, tin, acetophenone, dichlorodifluoromethane, bis(2-ethylhexyl)phthalate, phenol, naphthalene, delta-BHC, 2-methylphenol, 3- & 4-methylphenol, and total organic carbon;
 - MW-18, MW-19, SMP-7 - Constituents of Concern (currently 1,1-dichloroethane, vinyl chloride, and cobalt);
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with organic and inorganic data;
- Uploading the vetted laboratory analytical data in an electronic database with existing historical data;
- Providing recommendations to the County for resampling on an as-needed basis based on our review of the laboratory data with respect to established GPS;
- Preparing and submitting on behalf of Hanover County, the required Table 3.1, Column B detection and GPS exceedance notifications to the DEQ and the facility's corrective action data repository within the required 14-day timeframe; and
- Preparing required monthly System Evaluation Reports (SERs) for submittal to the corrective action data repository. Draft SERs will be forwarded to you for review and comment, and with your approval, will be forwarded to the appropriate location(s); and
- Preparing a yearly Corrective Action Data Repository CD-ROM of submitted deliverable documents for the calendar year. One CD-ROM will be provided to you for transmittal to the data repository in January 2019.

PHASE 104 CORRECTIVE ACTION LANDFILL GAS SAMPLING AND SOIL GAS VENT MONITORING PROGRAM

Monitoring services include an annual sampling of the landfill gas being emitted from the landfill gas vents installed through the landfill waste for the purpose of providing analytical data on the effectiveness of this portion of the presumptive remedy in removing contaminants from the waste mass. This phase includes quarterly landfill gas monitoring, and annual sampling and laboratory analysis of selected soil gas vents and temporary boundary probes constructed on the north side of the closed landfill to provide analytical data on the potential for groundwater impacts from landfill gas migration. Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, collecting the required composite sample, monitoring the soil gas vents and temporary probes, and managing the field and analytical data. The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site;
- Preparing the sample kit and field equipment for each sampling event;
- Monitoring the landfill gas emissions from selected gas vents installed on the landfill for temperature and the presence and concentration of methane, oxygen, carbon dioxide, static pressure and balance gas using a GEM5000 landfill gas meter (or equivalent type meter);
- Collecting two three-aliquot composite landfill gas samples, one from three landfill gas vents on the landfill that are emitting landfill gas with less than 5% oxygen and less than 20% nitrogen, when possible, and a second three-aliquot composite from three soil gas vents or temporary boundary probes constructed on the north side of the property that are emitting landfill gas with less than 5% oxygen and less than 20% nitrogen, when possible. The samples will be collected using laboratory-evacuated Summa canisters, a flow regulator, and a sampling train similar to the one illustrated in the *Corrective Action Monitoring Plan* prepared for the facility;
- Submitting the composite landfill gas samples to the contract laboratory under chain-of-custody control for analysis of required constituents (volatile organic compounds);
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with organic data;
- Uploading the vetted laboratory analytical data in an electronic database with historical data; and
- Monitoring the 50 soil gas vents and nine temporary vadose zone monitoring probes, and monitoring wells MW-7, MW-12, MW-13, MW-16, MW-17, MW-21, and MW-23, for the presence and concentration of methane, oxygen, carbon dioxide, balance gas, and pressure on a quarterly basis using a GEM5000 landfill gas meter (or equivalent type meter).

PHASE 105 CORRECTIVE ACTION LEACHATE SAMPLING PROGRAM

Monitoring services include an annual sampling of the landfill leachate for the purpose of providing analytical data on the effectiveness of this portion of the presumptive remedy in removing contaminants from the waste mass. Activities to be completed include coordinating with the contract laboratory for required laboratory analyses, collecting the required sample, and managing the analytical data. The professional services required to complete this activity phase are listed below:

- Coordinating each sampling event with the contract laboratory and Hanover County personnel to obtain the required sample kit and to ensure access to the site;
- Preparing the sample kit and field equipment for each sampling event;
- Collecting a leachate sample from one of the facility's leachate holding tanks;
- Submitting the leachate sample to the contract laboratory under chain-of-custody control for analysis of required constituents (sodium, potassium, chloride, magnesium, sulfate, calcium, alkalinity, total dissolved solids, ammonia, and volatile organic compounds);
- Reviewing the laboratory-provided data packages and quality assurance data in accordance with EPA data validation guidance associated with organic and inorganic data;
- Uploading the vetted laboratory analytical data in an electronic database with historical data.

PHASE 500 GENERAL PROFESSIONAL CONSULTING PHASE

Activities to be billed under this phase are activities that are not covered by proposed Phases 100 through 105. Example activities that may be billed under this phase if requested by Hanover County include, but are not limited to, the following:

- Discussing issues specific to the facility via phone conversations and meetings, as requested by Hanover County personnel;
- Resolving issues arising from previous activities at the facility, as requested by Hanover County [e.g., review of DEQ or facility files];
- Reviewing correspondence from the DEQ concerning submitted documents;
- Preparing responses to DEQ correspondence as requested by Hanover County;
- Trouble-shooting presumptive remedy and/or active remedial systems;
- Verification resampling, as approved by Hanover County; and
- Overseeing construction activities not covered under previously discussed programs at the site.